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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/559,093	08/14/2006	Masaaki Sako	87071	1451

22242 7590 03/02/2007
FITCH EVEN TABIN AND FLANNERY
120 SOUTH LA SALLE STREET
SUITE 1600
CHICAGO, IL 60603-3406

EXAMINER

KIM, TAE JUN

ART UNIT	PAPER NUMBER
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3746

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/02/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/559,093	SAKO ET AL.	
	Examiner	Art Unit	
	Ted Kim	3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03/25/2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-9 and 12-14 is/are rejected.
- 7) ☒ Claim(s) 2,3,10,11,15 and 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/18/2005</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 4-8, 12, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prabhu (6,393,821) in view of any of JP 2002-202006, Kilmer (2002/0023628) and Fujimura et al (6,190,429). Prabhu teaches an electric power supply system comprising: a gas turbine 14; a gas collecting device 1 configured to collect a gas being generated, including from coal mines (see Fig. 1); a gas separating device 7, 8, 9, 10 configured to continuously separate the gas that is supplied from the gas collecting device and has a content of combustible component that varies with time, according to the content of combustible component contained in the gas; a calorie adjusting device configured to selectively mix gases from 7, 8, 9, 10 having different contents of the combustible component which are separated by the gas separating device to adjust the content of the combustible component of the gas to be supplied to the gas turbine; and a system control device 24 configured to control an operation of the gas turbine, and an operation of the calorie adjusting device (see col. 6, lines 45+; col. 8, lines 13-32; col. 7, lines 35-47); wherein the gas separating device includes a combustible component meter M configured

to continuously measure the content of the combustible component of the gas collected by the gas collecting device 1, a plurality of gas supply passages 7-10 through which the gases according to predetermined ranges of the content of the combustible component are supplied, and a passage-switching means (valves in 7-10) configured to select one of the plurality of gas supply passages based on measurement results from the combustible component meter and to perform switching to the selected gas supply passage; the calorific adjusting device includes a plurality of gas supply passages 7-10 to which gases separated according to the content of the combustible component by the gas separating device are supplied, a mixed gas supply passage with valve 34 to which the plurality of gas supply passages are connected, the mixed gas supply passage extending to the gas turbine, and opening and closing means (valves) configured to adjust open positions of the plurality of gas supply passages. Prabhu do not teach a gas engine operated with the gas engine and the system control device also controlling the gas engine. Note that applicant has admitted that using gas engines operating on coal mine gas is well known in the art in the background of the invention section, specifically referencing the JP 2002-202006. Further note that Prabhu specifically teaches enriching the combustible component with methane (col. 7, lines 34+) for startup and other times and thus the enriched gases can inherently be made combustible in gas engines. Kilmer teaches using low methane content fuel from coal mines in gas engines. Fujimura et al teach see front of the patent operating a power plant with both a gas engine and a gas turbine engine for generating electric power with low energy content gases. It would have been obvious to

one of ordinary skill in the art to employ a gas engine controlled by the system control device, to operate on the low energy content gases derived from Prabhu. Fujimura et al also teach the heat recovery boiler connected to the gas turbine and the steam turbine connected to the boiler (col. 9, lines 9+). It would have been obvious to one of ordinary skill in the art to employ them to further recover the heat energy from the gas turbine exhaust. The system will inherently handle varying loads. Alternately, it would have been obvious to one of ordinary skill to vary the load based on the fuel content to the engines, as that is the limiting factor as to what load can be driven.

3. Claims 9, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prabhu (6,393,821) in view of any of JP 2002-202006, Kilmer (2002/0023628) and Fujimura et al (6,190,429), as applied above, and further in view of either Pont et al (2002/0148229) or JP 10-047626. The prior art teach various aspects of the claimed invention but do not teach the calorie adjusting device includes a feedback combustible component meter provided on the mixed gas supply passage, rather the combustible component meters M are provided at the chamber 1. Pont et al teach a negative feedback combustible component meter based on the energy content of the fuel (see abstract). JP 10-047626 teach a negative feedback combustible component meter (downstream of 5) based on the energy content of the fuel of the mixed gas from 5 where enriched gas is mixed with low energy gases to adjust the calorie content. It would have been obvious to one of ordinary skill in the art to employ the negative feedback combustible component

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meter based on the energy content of the fuel in the mixed gas passage, in order to most accurately know the content before combustion.

Allowable Subject Matter

4. Claims 2, 3, 10, 11, 15, 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Contact Information

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Ted Kim whose telephone number is 571-272-4829. The Examiner can be reached on regular business hours before 5:00 pm, Monday to Thursday and every other Friday.

The fax number for the organization where this application is assigned is 571-273-8300.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ehud Gartenberg, can be reached at 571-272-4828. Alternate inquiries to Technology Center 3700 can be made via 571-272-3700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). General inquiries can also be directed to the Patents Assistance Center whose telephone number is 800-786-9199. Furthermore, a variety of online resources are available at <http://www.uspto.gov/main/patents.htm>



Ted Kim	Telephone	571-272-4829
Primary Examiner	Fax (Regular)	571-273-8300
February 16, 2007	Fax (After Final)	571-273-8300
Technology Center 3700	Telephone	571-272-3700